

REMARKS

In the final Office Action, the Examiner rejected claims 1-3, 6, 13-15, 22, 25, 26, 32, and 46 under 35 U.S.C. § 102(b) as anticipated by Keel et al. (U.S. Patent No. 5,923,709); rejected claims 4, 5, 7-10, 16-21, 27-31, and 47 under 35 U.S.C. § 103(a) as unpatentable over Keel et al. in view of Belopolsky (U.S. Patent Application Publication No. 2003/0096537 A1); rejected claims 11, 12, 23, and 24 under 35 U.S.C. § 103(a) as unpatentable over Keel et al. in view of Crane, Jr. (U.S. Patent No. 5,661,631); rejected claim 33 under 35 U.S.C. § 103(a) as unpatentable over Keel et al. in view of Aekins (U.S. Patent No. 6,057,743); and rejected claims 34-45, 48, and 49 under 35 U.S.C. § 103(a) as unpatentable over Keel et al. in view of Aekins and Belopolsky.

By this Amendment, Applicants propose amending claims 17 and 28 to improve form. Applicants respectfully traverse the Examiner's rejections under 35 U.S.C. §§ 102 and 103. Claims 1-49 remain pending.

At the outset, Applicants respectfully submit that the finality of the Office Action, dated December 22, 2004, is improper. In the previous Office Action, dated June 28, 2004, the Examiner rejected independent claim 33 under 35 U.S.C. § 102(e) as anticipated by Belopolsky and as anticipated by Aekins. Applicants subsequently filed an Amendment on September 27, 2004 with no change to claim 33. In the final Office Action, dated December 22, 2004, the Examiner newly rejected independent claim 33 under 35 U.S.C. § 103(a) as unpatentable over Keel et al. in view of Aekins. The Examiner made the rejection final, alleging that Applicants' amendment necessitated the new grounds of rejection (final Office Action, page 7).

Further, in the previous Office Action, dated June 28, 2004, the Examiner rejected independent claim 40 under 35 U.S.C. § 103(a) as unpatentable over Aekins in view of Belopolsky and Official Notice taken by the Examiner. Applicants subsequently filed an Amendment on September 27, 2004 with a very minor change to claim 40. In the final Office Action, dated December 22, 2004, the Examiner newly rejected independent claim 40 under 35 U.S.C. § 103(a) as unpatentable over Keel et al. in view of Aekins and Belopolsky. The Examiner made the rejection final, alleging that Applicants' amendment necessitated the new grounds of rejection (final Office Action, page 7).

Also, in the previous Office Action, dated June 28, 2004, the Examiner rejected independent claim 48 under 35 U.S.C. § 102(e) as anticipated by Aekins. Applicants subsequently filed an Amendment on September 27, 2004 with no change to claim 48. In the final Office Action, dated December 22, 2004, the Examiner newly rejected independent claim 48 under 35 U.S.C. § 103(a) as unpatentable over Keel et al. in view of Aekins and Belopolsky. The Examiner made the rejection final, alleging that Applicants' amendment necessitated the new grounds of rejection (final Office Action, page 7).

M.P.E.P. § 706.07(a) states that:

second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p).

The minor change Applicants made to claim 40 in the previously filed Amendment could not have necessitated the Examiner's application of a new ground of rejection with regard to claim 40. In addition, independent claims 33 and 48 were not amended in the previously filed

Amendment. Further, the Keel et al. reference was not cited by Applicants in an Information Disclosure Statement filed during the period set forth in 37 CFR 1.97(c). Accordingly, Applicants submit that the finality of the Office Action, dated December 22, 2004, is improper. Withdrawal of the finality of the Office Action, dated December 22, 2004, is, therefore, respectfully requested.

At pages 2 and 3 of the final Office Action, the Examiner rejected claims 1-3, 6, 13-15, 22, 25, 26, 32, and 46 under 35 U.S.C. § 102(b) as allegedly anticipated by Keel et al. Applicants respectfully traverse the rejection.

A proper rejection under 35 U.S.C. § 102 requires that a single reference teach every aspect of the claimed invention either expressly or impliedly. Any feature not directly taught must be inherently present. In other words, the identical invention must be shown in as complete detail as contained in the claim. See M.P.E.P. § 2131. Keel et al. does not disclose or suggest the combination of features recited in claims 1-3, 6, 13-15, 22, 25, 26, 32, and 46.

Independent claim 1, for example, is directed to a cable. The cable comprises a first connector, a second connector, and a cable conductor connected at a first end to the first connector and at a second end to the second connector. The second connector comprises a signal processing element configured to process signals transmitted between the first and second connectors. The cable conductor is configured to extend shielding from a device connected to one of the first connector or the second connector to another one of the first connector or the second connector.

Keel et al. does not disclose or suggest the combination of features recited in claim 1. For example, Keel et al. does not disclose or suggest a cable conductor connected at a first end to a

first connector and at a second end to a second connector and configured to extend shielding from a device connected to one of the first connector or the second connector to another one of the first connector or the second connector.

The Examiner rejected claim 1 by generally referring to intelligent cable assembly 10 (final Office Action, page 2). Applicants respectfully submit that Keel et al. does not disclose or suggest that cable assembly 10 includes a cable conductor connected at a first end to a first connector and at a second end to a second connector and configured to extend shielding from a device connected to one of the first connector or the second connector to another one of the first connector or the second connector, as required by claim 1.

Applicants assume that the Examiner intended to identify connector 12 (Keel et al., Fig. 1) as the first connector, connector 14 with housing 16 (Keel et al., Fig. 1) as the second connector, and cable 13 (Keel et al., Fig. 1) as the cable conductor. Applicants submit, however, that nowhere does Keel et al. disclose or suggest that cable 13 is configured to extend shielding from a device connected to one of the first connector or the second connector to another one of the first connector or the second connector, as required by claim 1.

Keel et al. discloses that housing 16 may be constructed from a material that is capable of shielding the electronic components that it contains from electromagnetic interference (col. 4, lines 7-11). Keel et al. discloses that cable 13 extends from one end of housing 16 and connects to housing 16 via strain relief means 26 (col. 4, lines 16-19 and 30-32). Keel et al. does not disclose or suggest that housing 16 or cable 13 is configured to extend shielding from a device connected to one of the first connector or the second connector to another one of the first connector or the second connector, as required by claim 1.

For at least these reasons, Applicants submit that claim 1 is not anticipated by Keel et al. Claims 2, 3, and 6 depend from claim 1 and are, therefore, not anticipated by Keel et al. for at least the reasons given with regard to claim 1.

Independent claim 13 is directed to a network system. The network system comprises a network device configured to communicate signals on a network and a plurality of cables connected to the network device. Each of the cables comprises a first connector connected to the network device, a second connector comprising a signal processing element configured to process signals communicated with the network device, and a cable conductor connected at a first end to the first connector and a second end to the second connector. The cable conductor is configured to extend shielding from the network device to the second connector.

Keel et al. does not disclose or suggest the combination of features recited in claim 13. For example, Keel et al. does not disclose or suggest a plurality of cables connected to a network device, where each of the cables comprises a first connector, a second connector, and a cable conductor. Keel et al. discloses a single cable assembly 10 (Fig. 2). The Examiner did not address this feature and, therefore, did not establish a proper case of anticipation with regard to claim 13.

Keel et al. also does not disclose or suggest a cable conductor connected at a first end to the first connector and a second end to the second connector and configured to extend shielding from the network device to the second connector, as further required by claim 13. The Examiner rejected claim 13 by generally referring to intelligent cable assembly 10 (final Office Action, page 2).

Applicants assume that the Examiner intended to identify connector 12 (Keel et al., Figs. 1 and 2) as the first connector, connector 14 with housing 16 (Keel et al., Figs. 1 and 2) as the second connector, and cable 13 (Keel et al., Figs. 1 and 2) as the cable conductor. Applicants submit, however, that nowhere does Keel et al. disclose or suggest that cable 13 is configured to extend shielding from a network device, connected to the first connector, to the second connector, as required by claim 13.

Keel et al. discloses that housing 16 may be constructed from a material that is capable of shielding the electronic components that it contains from electromagnetic interference (col. 4, lines 7-11). Keel et al. discloses that cable 13 extends from one end of housing 16 and connects to housing 16 via strain relief means 26 (col. 4, lines 16-19 and 30-32). Keel et al. does not disclose or suggest that housing 16 or cable 13 is configured to extend shielding from a network device, connected to the first connector, to the second connector, as required by claim 13.

For at least these reasons, Applicants submit that claim 13 is not anticipated by Keel et al. Claims 14, 15, and 22 depend from claim 13 and are, therefore, not anticipated by Keel et al. for at least the reasons given with regard to claim 13. Claims 14, 15, and 22 are also not anticipated by Keel et al. for reasons of their own.

For example, claim 14 recites that the network device is a router. Keel et al. does not disclose or suggest this feature. Instead, Keel et al. discloses a modem device 30 (Fig. 2).

The Examiner rejected claim 14 by alleging that it is an intended use and intended use does not differentiate the claimed apparatus from the prior art (final Office Action, page 3). Applicants disagree. Claim 14 recites that the network device is a router. Contrary to the

Examiner's allegation, this is not an intended use. Therefore, the Examiner's dismissal of the feature of claim 14 is unwarranted and unsupported by the patent laws.

For at least these additional reasons, Applicants submit that claim 14 is not anticipated by Keel et al.

Independent claim 25 is directed to a network system. The network system comprises a network device configured to communicate signals on a network and a plurality of cables connected to the network device. Each of the cables comprises a first connector connected to the network device and comprising a signal processing element configured to process signals communicated with the network device, a second connector, and a cable conductor connected at a first end to the first connector and at a second end to the second connector. The cable conductor is configured to extend shielding from the network device to the second connector.

Keel et al. does not disclose or suggest the combination of features recited in claim 25. For example, Keel et al. does not disclose or suggest a plurality of cables connected to a network device, where each of the cables comprises a first connector, a second connector, and a cable conductor. Keel et al. discloses a single cable assembly 10 (Fig. 2). The Examiner did not address this feature and, therefore, did not establish a proper case of anticipation with regard to claim 25.

Keel et al. also does not disclose or suggest a first connector connected to a network device that comprises a signal processing element configured to process signals communicated with the network device, as further required by claim 25. Keel et al. discloses that connector 12 connects to modem device 30 (Figs. 1 and 2). Keel et al. does not disclose or suggest that

connector 12 comprises a signal processing element configured to process signals communicated with the network device, as required by claim 25.

Keel et al. further does not disclose or suggest a cable conductor connected at a first end to the first connector and a second end to the second connector and configured to extend shielding from the network device to the second connector, as also required by claim 25. The Examiner rejected claim 25 by generally referring to intelligent cable assembly 10 (final Office Action, page 2).

Applicants assume that the Examiner intended to identify connector 12 (Keel et al., Figs. 1 and 2) as the first connector, connector 14 with housing 16 (Keel et al., Figs. 1 and 2) as the second connector, and cable 13 (Keel et al., Figs. 1 and 2) as the cable conductor. Applicants submit, however, that nowhere does Keel et al. disclose or suggest that cable 13 is configured to extend shielding from a network device, connected to the first connector, to the second connector, as required by claim 25.

Keel et al. discloses that housing 16 may be constructed from a material that is capable of shielding the electronic components that it contains from electromagnetic interference (col. 4, lines 7-11). Keel et al. discloses that cable 13 extends from one end of housing 16 and connects to housing 16 via strain relief means 26 (col. 4, lines 16-19 and 30-32). Contrary to the Examiner's allegation, Keel et al. does not disclose or suggest that housing 16 or cable 13 is configured to extend shielding from a network device, connected to the first connector, to the second connector, as required by claim 25.

For at least these reasons, Applicants submit that claim 25 is not anticipated by Keel et al. Claims 26 and 32 depend from claim 25 and are, therefore, not anticipated by Keel et al. for at least the reasons given with regard to claim 25.

Independent claim 46 recites features similar to features recited in claim 1. Claim 46 is, therefore, not anticipated by Keel et al. for at least reasons similar to reasons given with regard to claim 1.

At pages 3-5 of the final Office Action, the Examiner rejected claims 4, 5, 7-10, 16-21, 27-31, and 47 under 35 U.S.C. § 103(a) as allegedly unpatentable over Keel et al. in view of Belopolsky. Applicants respectfully traverse the rejection.

Claims 4, 5, and 7-10 depend from claim 1; claims 16-21 depend from claim 13; claims 27-31 depend from claim 25; and claim 47 depends from claim 46. Without acquiescing in the Examiner's rejection, Applicants submit that the disclosure of Belopolsky does not cure the deficiencies in the disclosure of Keel et al. identified above with regard to claims 1, 13, 25, and 46. Therefore, claims 4, 5, 7-10, 16-21, 27-31, and 47 are patentable over Keel et al. and Belopolsky, whether taken alone or in any reasonable combination, for at least the reasons given with regard to claims 1, 13, 25, and 46. Claims 4, 5, 7-10, 16-21, 27-31, and 47 are also patentable over Keel et al. and Belopolsky for reasons of their own.

For example, claims 5, 17, 20, and 28 recite a common mode choke. The Examiner alleged that Belopolsky discloses a common mode choke (final Office Action, page 4). Without acquiescing in the Examiner's rejection, Applicants submit that the Examiner provided no motivation for combining the alleged disclosure of Belopolsky with the disclosure of Keel et al.

Accordingly, the Examiner's rejection is improper and the Examiner has not established a prima facie case of obviousness with regard to claims 5, 17, 20, and 28.

For at least these additional reasons, Applicants submit that claims 5, 17, 20, and 28 are patentable over Keel et al. and Belopolsky, whether taken alone or in any reasonable combination.

Claims 7, 18, and 29 recite a transmit cable and a receive cable. The Examiner admitted that Keel et al. does not disclose both a transmit cable and a receive cable, but alleged that Belopolsky discloses a transmit and a receive cable (final Office Action, page 4). The Examiner alleged that it would have been obvious to modify the intelligent cable assembly of Keel et al. to include both transmit and receive cables because it would permit the modem to transmit and receive information (final Office Action, page 4). Applicants submit that the Examiner's motivation statement lacks merit.

Keel et al. discloses that the intelligent cable assembly permits the modem device to transmit a first digital signal over an ISDN communication line and receive a second digital signal from the ISDN communication line (col. 2, lines 16-21). Therefore, the Examiner's motivation statement lacks merit because Keel et al. already discloses transmitting and receiving. Accordingly, the Examiner's motivation statement is faulty and falls short of establishing a prima facie case of obviousness with regard to claims 7, 18, and 29.

For at least these additional reasons, Applicants submit that claims 7, 18, and 29 are patentable over Keel et al. and Belopolsky, whether taken alone or in any reasonable combination.

Claim 10 recites that a first pulse transformer and a first common mode choke are located on a first side of the second connector and a second pulse transformer and a second common mode choke are located on a second side of the second connector. Neither Keel et al. nor Belopolsky, whether taken alone or in any reasonable combination, discloses or suggests this combination of features.

In rejecting claim 10, the Examiner alleged that Keel et al. in view of Belopolsky disclose the signal conductor of claim 9 and Belopolsky discloses a common mode choke used to reduce noise on lines (final Office Action, page 5). Even assuming that the Examiner's allegations are correct (a point that Applicants do not concede), the Examiner has not addressed any of the features recited in claim 10. Therefore, the Examiner did not establish a prima facie case of obviousness with regard to claim 10.

For at least these additional reasons, Applicants submit that claim 10 is patentable over Keel et al. and Belopolsky, whether taken alone or in any reasonable combination.

At page 5 of the final Office Action, the Examiner rejected claims 11, 12, 23, and 24 under 35 U.S.C. § 103(a) as allegedly unpatentable over Keel et al. in view of Crane, Jr. Applicants respectfully traverse the rejection.

Claims 11 and 12 depend from claim 1 and claims 23 and 24 depend from claim 13. Without acquiescing in the Examiner's rejection, Applicants submit that the disclosure of Crane, Jr. does not cure the deficiencies in the disclosure of Keel et al. identified above with regard to claims 1 and 13. Therefore, claims 11, 12, 23, and 24 are patentable over Keel et al. and Crane, Jr., whether taken alone or in any reasonable combination, for at least the reasons given with regard to claims 1 and 13.

At pages 5 and 6 of the final Office Action, the Examiner rejected claim 33 under 35 U.S.C. § 103(a) as allegedly unpatentable over Keel et al. in view of Aekins. Applicants respectfully traverse the rejection.

Claim 33 is directed to a patch panel. The patch panel comprises a plurality of first connectors, a plurality of second connectors, and a plurality of signal processing elements. At least one of the first connectors is configured to connect to a network device via a cable. Each of the groups of second connectors corresponds to one of the first connectors. Each of the signal processing elements is configured to process signals transmitted between one of the first connectors and one of the groups of second connectors.

Neither Keel et al. nor Aekins, whether taken alone or in any reasonable combination, discloses or suggests the combination of features recited in claim 33. The Examiner admitted that Keel et al. does not disclose a plurality of first connectors and a plurality of groups of second connectors (final Office Action, page 6). The Examiner alleged that Aekins discloses distribution noise reduction circuits in a telecommunications system connector arranged in ordered arrays and connected by a circuit having a plurality of conductive paths (final Office Action, page 6). Even assuming that the Examiner's allegation with regard to Aekins is correct (a point that Applicants do not concede), the Examiner has not alleged that Aekins discloses any of the features recited in claim 33. Therefore, the Examiner did not establish a prima facie case of obviousness with regard to claim 33.

Nevertheless, the disclosure of Aekins does not cure the deficiencies in the disclosure of Keel et al. For example, Aekins does not disclose a patch panel that comprises a plurality of first connectors and a plurality of groups of second connectors, where each of the groups of second

connectors corresponds to one of the first connectors. Instead, Aekins discloses a connector 10 that includes a set of input terminals 11-14 and a set of output terminals 15-18 (Fig. 1; col. 3, lines 61-64). Each input terminal 11-14 is connected to a corresponding one of output terminals 15-18 (col. 4, lines 8-16).

Even assuming, for the sake of argument, that a connector can be equated to a patch panel, input terminals 11-14 can be equated to first connectors, and output terminals 15-18 can be equated to second connectors (points which Applicants do not concede), Aekins does not disclose a patch panel that includes a plurality of first connectors and a plurality of groups of second connectors, as recited in claim 33. As explained above, Aekins discloses a one-to-one connection between input terminals 11-14 and output terminals 15-18. Claim 33, by contrast, recites that each of the groups of second connectors corresponds to one of the first connectors. Aekins does not disclose or suggest a similar relationship between the input and output terminals.

Because neither Keel et al. nor Aekins discloses a patch panel that includes a plurality of first connectors and a plurality of groups of second connectors, where each of the groups of second connectors corresponds to one of the first connectors, neither Keel et al. nor Aekins can disclose a plurality of signal processing elements, where each of the signal processing elements is configured to process signals transmitted between one of the first connectors and one of the groups of second connectors, as further required by claim 33.

For at least these reasons, Applicants submit that claim 33 is patentable over Keel et al. and Aekins, whether taken alone or in any reasonable combination.

At pages 6 and 7 of the final Office Action, the Examiner rejected claims 34-45, 48, and 49 under 35 U.S.C. § 103(a) as allegedly unpatentable over Keel et al. in view of Aekins and Belopolsky. Applicants respectfully traverse the rejection.

Claims 34-39 depend from claim 33. Without acquiescing in the Examiner's rejection, Applicants submit that the disclosure of Belopolsky does not cure the deficiencies in the disclosures of Keel et al. and Aekins identified above with regard to claim 33. Claims 34-39 are, therefore, patentable over Keel et al., Aekins, and Belopolsky, whether taken alone or in any reasonable combination, for at least the reasons given with regard to claim 33.

Independent claim 40 is directed to a network system. The network system comprises a network device and a patch panel. The network device is configured to communicate signals on a network. The patch panel is configured to communicate signals with the network device via a plurality of cables. The patch panel comprises a plurality of pulse transformers configured to convert signals between balanced signals and single ended signals, and a plurality of common mode chokes corresponding to the pulse transformers and configured to remove common mode noise from the balanced signals.

Neither Keel et al., Aekins, nor Belopolsky, whether taken alone or in any reasonable combination, discloses or suggests the combination of features recited in claim 40. In rejecting claim 40, the Examiner alleged that Keel et al. in view of Aekins discloses the patch panel of claim 33 and Belopolsky discloses a pulse transformer configuration to transmit and receive balanced signals (final Office Action, page 6).

Even assuming that the Examiner's allegations are correct (points that Applicants do not concede), the Examiner has not addressed several of the features of claim 40. For example, the

Examiner has not alleged that any of these references discloses a network device or a patch panel, configured to communicate signals with the network device via a plurality of cables, that comprises a plurality of common mode chokes, as recited in claim 40. Therefore, the Examiner did not establish a prima facie case of obviousness with regard to claim 40.

Nevertheless, Applicants submit that none of these references discloses or suggests the features of claim 40. For example, neither Keel et al., Aekins, nor Belopolsky discloses or suggests a patch panel configured to communicate signals with a network device via a plurality of cables. Keel et al. discloses an intelligent cable assembly (col. 2, lines 16-21), not a patch panel configured to communicate signals with a network device via a plurality of cables, as required by claim 40. Aekins discloses a connector with plural pairs of input and output terminals (col. 1, lines 17-24), not a patch panel configured to communicate signals with a network device via a plurality of cables, as required by claim 40. Belopolsky discloses an adapter that filters electronic signals transmitted between an electronic device and a communication bus (paragraph 0006), not a patch panel configured to communicate signals with a network device via a plurality of cables, as required by claim 40.

Because Keel et al., Aekins, and Belopolsky do not disclose or suggest a patch panel configured to communicate signals with a network device via a plurality of cables, Keel et al., Aekins, and Belopolsky cannot disclose or suggest a patch panel that includes a plurality of pulse transformers and a plurality of common mode chokes, as further required by claim 40.

For at least these reasons, Applicants submit that claim 40 is patentable over Keel et al., Aekins, and Belopolsky, whether taken alone or in any reasonable combination. Claims 41-45

depend from claim 40 and are, therefore, patentable over Keel et al., Aekins, and Belopolsky for at least the reasons given with regard to claim 40.

Independent claim 48 recites features similar to features recited in claim 33. The Examiner rejected claim 33 based on Keel et al. and Aekins, but rejected claim 48 based on Keel et al., Aekins, and Belopolsky (final Office Action, pages 5 and 6). The Examiner did not explain what portion of Belopolsky is being relied upon in the rejection of claim 48. Instead, the Examiner alleged that Belopolsky discloses a pulse transformer configuration (final Office Action, page 6). This feature is not recited in claim 48, however. Accordingly, the Examiner did not provide a proper rejection with regard to claim 48.

Nevertheless, Applicants submit that the disclosure of Belopolsky does not cure the deficiencies in the disclosures of Keel et al. and Aekins identified above with regard to claim 33. Therefore, claim 48 is patentable over Keel et al., Aekins, and Belopolsky, whether taken alone or in any reasonable combination, for at least reasons similar to reasons given with regard to claim 33. Claim 49 depends from claim 48 and is, therefore, patentable over Keel et al., Aekins, and Belopolsky for at least the reasons given with regard to claim 48.

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of pending claims 1-49.

Applicants respectfully request that the finality of the Office Action be withdrawn as improper for the reasons provided above. Accordingly, this Amendment should be entered by the Examiner, placing claims 1-49 in condition for allowance.

In the event that the Examiner does not withdraw the finality of the Office Action, Applicants respectfully request that this Amendment under 37 C.F.R. § 1.116 be entered by the

Examiner, placing claims 1-49 in condition for allowance. Applicants submit that the proposed amendments do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or implied in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

If the Examiner does not believe that all pending claims are now in condition for allowance, the Examiner is urged to contact the undersigned to expedite prosecution of this application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY & SNYDER, L.L.P.



Paul A. Harrity
Reg. No. 39,574

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11240 Waples Mill Road
Suite 300
Fairfax, Virginia 22030
(571) 432-0800